

Remarks

Applicant submits that all of the claim rejections are improper because each rejection relies upon teachings of the '702 reference, which fails to provide correspondence to the claimed invention as suggested in the Office Action. Applicant has also addressed the objections to the specification, and thus believes the application is in condition for allowance.

In the instant Office Action dated January 10, 2008, the following rejections are noted: claims 1-10 and 18-28 stand rejected under 35 U.S.C. § 102(b) over the Berberidis reference (US Patent No. 6,052,702); claims 11 and 28 stand rejected under 35 U.S.C. § 103(a) over the Berberidis reference in view of the Johnson reference (U.S. Patent No. 5,808,574); claim 12 stands rejected under 35 U.S.C. § 103(a) over the Berberidis reference in view of the Gay-Bellile reference (U.S. Patent Pub. 2002/0070796) and claim 17 stands rejected under 35 U.S.C. § 103(a) over the Berberidis reference in view of the Gay-Bellile reference and further in view of the Thomas reference (U.S. Patent Pub. 2004/0013084). The Office Action also notes an objection to the specification.

In view of the above amendment to the Abstract, Applicant requests that the objection thereto (for being longer than 150 words) be removed.

Applicant respectfully declines to add section headings to the specification because the indicated suggestions in 37 C.F.R. § 1.77(b) are not statutorily required for filing a non-provisional patent application under 35 USC § 111(a), but per 37 C.F.R. § 1.51(d) are only guidelines that are suggested for applicant's use. They are not mandatory, and when Rule 77 was amended in 1996 (61 FR 42790, Aug. 19, 1996), Bruce A. Lehman, Assistant Secretary of Commerce and Commissioner of Patents and Trademarks, stated in the Official Gazette:

“Section 1.77 is permissive rather than mandatory. ... 1.77 merely expresses the Office's preference for the arrangement of the application elements. The Office may advise an applicant that the application does not comply with the format set forth in 1.77, and suggest this format for the applicant's consideration; however, the Office will not require any application to comply with the format set forth in 1.77.”

In view of the above, Applicant prefers not to add section headings.

Applicant respectfully traverses all of the Sections 102 and 103 rejections because the '702 reference does not disclose claim limitations including those directed to a

detector that generates an output signal by extracting samples from an adder. Specifically, the Office Action has cited a “decision device DO” at column 6:9-17 as corresponding to the claimed detector and its function, but this decision device DO neither provides an (overall) output nor does it extract samples to do so. As the Office Action relies upon the ‘702 reference and these (improperly) alleged teachings in rejecting independent claims claim 1 and 18, from which all claims depend, all of the claim rejections are improper. To facilitate an understanding of this lack of correspondence, the following discussion points to certain embodiments in the disclosure of the instant invention as relative to the claimed invention, and further addresses the ‘702 reference and its lack of correspondence in greater detail.

Referring to independent claim 1 (*and, e.g.,* an example embodiment in FIG. 3), a frequency-domain device includes first and second sections that respectively generate outputs, with the second section having a feedback filter, an adding device and a detector. The feedback filter receives an output of the detector, filters the output and provides the filtered output to the adding device. The adding device adds the output from the first section and the filtered output to provide an added output to the detector. The detector “extracts samples from the output signal of said adding means” to generate an overall output of the second section. In this regard, the output of the detector is used as both the overall output of the second section and as an input to the feedback filter. For a visual example, reference may be made to FIG. 3, which shows a detector receiving a signal from an adder and generating an output signal that is also provided to a feedback block. Of note, the output of the adder is provided to the detector, and it is the output of the detector that is the overall output (*i.e.*, the output of the adder is provided solely to the detector). This is consistent with paragraph 0061 of the instant application, which indicates that “[t]he output of the detector is a discrete time signal \hat{d} , whose samples are chosen from the constellation.”

The cited portions of the ‘702 reference do not disclose subject matter relating to the above-discussed second section and related claim limitations, because the “decision device DO” that is alleged as providing correspondence to the claimed “detector” neither provides an output of a second section nor extracts samples from an output sample to provide the output. Referring to FIG. 4 and the cited discussion at column 6 of the ‘702

reference, the indicated output “ $y(n)$ ” is provided from an addition 14, and the decision device DO provides a signal to a domain feedback filter FB. The ‘702 reference’s overall output $y(n)$ is generated from the addition 14 and is prior to the decision device DO, which provides a sole output $d(n)$ to feedback filter FB. Consequently, the output of the alleged “second section” in the ‘702 reference is directly from the addition 14 and not generated by extracting samples at a decision device or otherwise. Moreover, the cited portions of the ‘702 reference, including FIG. 1, FIG. 4 and column 5:59-6:49 make no mention of any extraction of samples by the decision device DO, as claimed or otherwise.

In view of the above, the ‘702 reference does not disclose all of the claim limitations, including those directed to the claimed arrangement of a feedback filter, adding means and detecting means, to functions provided by the detecting means and to the generation of an overall output. As the Office Action relies upon a misinterpretation of the ‘702 reference as teaching these limitations as basis for all of the Sections 102 and 103 rejections, Applicant submits that all of the rejections are improper and should be removed.

Further in view of the above, Applicant believes that further discussion of the rejections of the dependent claims is unnecessary, as the rejections of all claims relative to the ‘702 reference are improper. However, Applicant further traverses the rejections of the dependent claims because various limitations are not taught in the cited references as asserted, and because the proposed combinations (relative to the Section 103) rejections, are unmotivated (*e.g.*, as relevant to the misinterpretation of the ‘702 reference). In this regard, the rejections of certain claims are further addressed below.

Referring to the Section 102 rejection of claims 3 and 20, Applicant submits that the cited portion of the ‘702 reference makes no mention of subject matter providing correspondence to “generating equalization parameters by taking into account a fast Fourier transformation estimation of a channel impulse response ...” as claimed. Specifically, Applicant has reviewed this cited portion (column 5:64-6:8) and while a fast linear filter is discussed, there is no disclosure of any channel impulse response or estimation thereof.

Regarding the Section 102 rejection of claims 4 and 21, the indicated “M/PL element” acts after the forward filter FF and thus does not disclose converting a sequence

of incoming signals for a first vector as claimed (*e.g.*, the first vector is provided for fast Fourier transform as in claim 1). Correspondingly, the rejections of claims 4 and 21 as well as claims 5-8 and 22-25, which depend from either claim 4 or 21, are improper.

Regarding the Section 103 rejection of claims 11 and 28, the Office Action has not asserted that either reference teaches providing an output signal built by consecutive blocks, where each block includes "a predetermined number (M) of samples from" an output signal. In addition, while the secondary '574 reference describes a pseudo-random noise generator, it does not disclose including a pseudo noise sequence with blocks of an output signal as claimed.

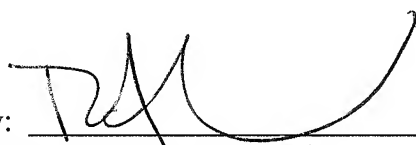
Certain claims have been amended to remove reference numerals and improve readability as relative to foreign-type claims, showing reference to example embodiments. Claims 12 and 17 have been amended for dependency.

In view of the remarks above, Applicant believes that each of the rejections has been overcome and the application is in condition for allowance. Should there be any remaining issues that could be readily addressed over the telephone, the Examiner is asked to contact the agent overseeing the application file, Peter Zawilski, of NXP Corporation at (408) 474-9063.

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